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Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

In the Matter of: )  
 )  
Allocation of Spectrum Below )  
5 GHz Transferred from )  
Federal Government Use )  
 )  
 )

ET Docket No. 94-32

TO: The Commission

**REPLY COMMENTS OF COMPAQ COMPUTER CORPORATION**

Compaq Computer Corporation ("Compaq") respectfully submits that two conclusions inescapably emerge from the record in this proceeding. The first is that the proposal to designate 2390-2400 MHz and 2402-2417 MHz for "general Fixed and Mobile Services" and to rely substantially on "auctions" to determine the use to which this spectrum is put is bad policy and contrary to law. The second is that application of traditional spectrum allocation criteria fully support--indeed compel--the results for which Compaq and others in the computer and allied industries have contended: 2390-2400 MHz should be allocated for Data-PCS uses and 2402-2417 MHz should be retained for use by ISM equipment, including wireless local area networks. We submit these reply comments to rejoin to the central arguments of those who contend for contrary results.

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**The Proposal to Indiscriminately  
Determine Use of 2390-2400 and 2402-2417 MHz  
Through the Auction Process is Unsound as a  
Matter of Policy and Contrary to Law.**

There is virtual unanimity among commenting parties that the suggestion to allocate 2390-2400 MHz and 2402-2417 MHz for "general Fixed and Mobile Services" and to determine the specific use to which these bands are put through exclusive reliance on the auction process must be rejected. The only parties who endorse this approach are those who seek a specific, licensed use of the spectrum,<sup>1/</sup> and they have provided no cogent reasons for this outcome.

The fatal policy flaw in the auction-dependent approach is that it presupposes that any spectrum that can be put to "auctionable" uses should be auctioned. This ignores the essential characteristics of spectrum: spectrum is not inherently either auctionable or susceptible to use as a public good; the classification depends upon the use to which the spectrum is put. See, Compaq Comments at 15. The auction-dependent allocation rationale thus either ignores the public interest values that inhere in unlicensed uses of some parts of the spectrum or, worse yet, falsely presupposes that "economical prices for users" and "incentives to develop and introduce innovative service features and technologies"<sup>2/</sup> can be achieved only through auction. As WinForum (among others) also

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<sup>1/</sup> See, e.g., Comments of Pacific Bell Mobile Service at 1. Even this is not universally true. The proponents of wireless local loop service contemplate exclusive use of 2390-2400 MHz by local exchange service providers and of "partitioning" use in cases where there is more than one eligible applicant. See, Comments of Southwestern Bell Telephone Company ("SWBT") at 11. Competitive bidding under this proposal would be limited to a very small class of qualified bidders.

<sup>2/</sup> NPRM at ¶ 9.

correctly points out, the auction-dependent approach is most emphatically not the one that the Commission took in its disposition of ET Docket No. 92-9.<sup>3/</sup> Rather, the Commission applied traditional spectrum allocation criteria to reach its conclusion that the public interest would be served by allocating 140 MHz of the emerging technology spectrum to PCS. It is most telling that the PCS allocation included 20 MHz of spectrum for unlicensed use.

Nor do the proponents of the auction-dependent approach attempt to reconcile this procedure with the Commission's statutory duties. Section 303 of the Communications Act requires the Commission to "[a]ssign bands of frequencies to the various classes of stations." 47 U.S.C. § 303(c). By its terms, and by long tradition, this requires the Commission to first decide how available spectrum is to be used (or classified) before licensing decisions are made.<sup>4/</sup> There is nothing in the Reconciliation Act that amends section 303(c) or alters the analytic process the Commission is obligated to follow. See, 47 U.S.C. § 309(j)(7)(A). The drafters of the auction provisions of the Reconciliation Act made it abundantly clear that auctions may be used as a means of awarding licenses (in lieu of, e.g., comparative hearings or lotteries), but not as a basis for spectrum allocation:

This proposal does not, however, allow auctions to be used to allocate frequencies among different service categories. Frequency allocation decisions must continue to be made by the FCC, not by the private marketplace.

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<sup>3/</sup> See Comments of WinForum at 7. See also Comments of Manufacturers Radio Frequency Advisory Committee at 3.

<sup>4/</sup> See, e.g., Allocation of frequencies in the 900 MHz Reserve Band, 2 FCC Rcd. 6830 (1987).

139 Cong. Rec. S1438; see also 139 Cong. Rec. S1442 (Feb. 4, 1993). The process that the Commission followed in Docket ET 92-9 faithfully adhered to the two-step analytic process mandated under the Reconciliation Act; and--it bears emphasis--resulted in the allocation of some spectrum for use, on an unlicensed basis, as a public good. The auction-dependent approach suggested in the NPRM does not.

Accordingly, the proposal to generally put up the spectrum being released by the Federal Government for auction must be rejected. The Commission must examine the specific proposals that have been presented and determine which of these proposals, to the extent that they are mutually exclusive, will result in the "best and most valued use" of the spectrum and yield "the greatest benefits to the public." NPRM at ¶ 8. Only then can the question of auctions be reached, if it arises at all.

**The Allocation of 2390-2400 MHz for  
Data-PCS and the Preservation of  
2402-2417 MHz for ISM Application  
is Superior to the Alternatives and  
Will Best Further the Realization of the NIL**

No new, substantial proposal for the use of the spectrum at 2390-2400 have been advanced in the initial comments filed in this proceeding.<sup>5/</sup> Thus, there

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<sup>5/</sup> It is conceivable that the Commission could treat the comments of Pacific Bell Mobile Services--urging that the spectrum at 2390-2400 MHz be made available for auction for licensed PCS--as a request for a specific allocation for this purpose. See Comments of Pacific Bell Mobile Services at 1. In any case, the proposal is, among other things, premature: The fact that the 120 MHz of spectrum that the Commission has allocated to licensed PCS will soon be auctioned off does not automatically yield the conclusion that licensed PCS needs yet additional capacity; and Pacific Bell Mobile essentially concedes as much. Comments of Pacific Bell Mobile at 2. To the extent, therefore, that these comments are treated as a specific allocation request, the proponents of this use of 2390-2400 MHz have failed to show that the proposal is in the public interest.

Similar considerations apply to the proposal to allocate this spectrum for MSS uses. See, Comments of Loral/Qualcomm Partnership, L.P. at 3.

remains only one question to be resolved: Whether to allocate 2390-2400 MHz for Data-PCS or to allocate the spectrum either for wireless local loops or airline audio and video service.<sup>6/</sup> Both on its own terms and in comparison with the alternatives, it is clear that the Data-PCS use of this 10 MHz of spectrum represent the highest and most valued use possible.

Although the airline audio and video service ("AAVS") proposal has drawn some support from certain airlines and one of the commercial television networks,<sup>7/</sup> the public need or demand for the service is marginal, at best: AAVS would provide real time entertainment and information to a maximum of 1.3 million air travelers during a maximum of 6 hours on any day; given the fact that there are close substitutes for real time entertainment and information--movies, books, magazines, newspapers--there is no reason to assume that maximum potential audience will consistently be realized. Thus, the best that can be said is that the service may prove profitable to In-flight Phone Corporation--the proponent of the service--and may yield marginal additional revenues to the airlines and to program suppliers, but it will not make a substantial contribution to the American economy. The AAVS proposal lacks an adequate public interest justification.

The proposal to allocate 2390-2400 MHz (paired with 2300-2310 MHz) for wireless local loop service ("WLL") is, albeit for slightly different reasons, equally

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<sup>6/</sup> The opposition to licensed use of 2402-2417 MHz is so cogent and overwhelming that further discussion of this matter is not warranted.

<sup>7/</sup> See, e.g., Comments of Continental Airlines; CapCities/ABC.

lacking in an adequate public interest foundation. First, actual use of the spectrum for WLL would be extremely limited. The comments make very clear that the spectrum would be used as a "filler" for cable in rural remote areas (where terrain and other considerations may make the installation of wire somewhat more difficult), in service areas where aging cable plant is beginning to deteriorate, and in certain "seasonal" or emergency (and presumably therefore temporary) circumstances.<sup>8/</sup> The comments of SWBT show precisely how limited the use of the spectrum would actually be:

... SWBT's primary use of WLL would be to satisfy the demand for new access lines and for rehabilitation of aging plant. Together, SWBT anticipates that these uses would produce roughly three percent coverage of a particular service area per year.

Comments of Southwestern Bell Telephone Company at 8. At that rate, it would take more than 33 years before the spectrum is fully utilized for its "primary use" in any licensed area.<sup>9/</sup>

In fact, the proponents of WLL do not pretend that the capacity they require to make WLL viable will ever be used for its "primary use." US West urges that WLL licensees be allowed "to find ways to maximize the use of the spectrum throughout

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<sup>8/</sup> See Comments of SWBT at 7-8; Comments of Bell Atlantic at 2; Comments of NYNEX at 3.

<sup>9/</sup> The illustrative uses set forth in US West Comments serve only to highlight how highly selective and limited use of the spectrum would be. Under US West's experimental authorization, it would have exclusive use of spectrum at 2390-2400 MHz throughout its service area in order to extend basic telephone service to an area where the population density "is less than two people per square mile" and where mountains and canyons must be crossed to provide basic telephone service. Comments of US West at 2. In other, more heavily populated areas, the proposal is to use WLL to supplement "existing cable plant," but no showing is made whether, in this situation, WLL technology is, in the long run, more cost effective than the obvious alternative--the installation of additional cable capacity.

all portions of their service area" including giving WLL licensees "the flexibility to lease unused spectrum to others." Comments of US West at 6-7. Except possibly for undefined fixed point-to-point applications, it is not at all clear whether the lease arrangement would be workable; nor is it shown why these specialized secondary uses cannot be accommodated in spectrum already allocated for fixed, point-to-point service. The proposed use of spectrum for WLL itself is very limited, and none of the proponents of WLL have shown that there is demand for the very large amounts of capacity that will not be used for WLL itself. Thus, the conclusion that WLL in 2390-2400 MHz does not represent the best and most valued use of this spectrum remains inescapable.

Second, whatever legitimate need there is for the use of radio spectrum in place of cable to deliver basic telephone service, it has not been shown that the spectrum at 2390-2400 MHz is uniquely suited to this service.<sup>10/</sup> Southwestern Bell acknowledges that smaller blocks of spectrum will support WLL for "very localized uses." SWBT Comments at 9. Yet, the "primary use" of WLL itself is highly localized. Indeed, no showing has been made by the proponents of WLL as to why it cannot operate at 2300-2310 MHz employing time division duplex technologies or what effect the use of this technology would have on the cost benefit calculus of WLL. Rather, the justification to allocate 2390-2400 MHz for WLL rests on the proposition that this portion of the spectrum of the band can be paired with 2300-2310 and that the public interest "would be

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<sup>10/</sup> It appears that the service is already being offered in the 38 GHz band. Comments of Avante Garde at 2-3.

disserved" if spectrum "that can be paired is not paired." Comments of US West at 1. This is not a demonstration of efficient use of spectrum.

By contrast to the AAVS and WLL proposals, the allocation of 2390-2400 MHz for Data-PCS is plainly responsive to broad public need, yielding substantial benefits across the American economy and represents a highly efficient use of this spectrum. We need not belabor the facts supporting these conclusions; they are fully detailed on the record.<sup>11/</sup> In brief, the Commission itself has acknowledged need--public demand--for additional spectrum for Data-PCS and has made a "commitment" to find that additional spectrum. NPRM at ¶ 14. The spectrum at 2390-2400 affords the means for the Commission to honor this commitment because it is "uniquely well suited"<sup>12/</sup> for the intended use: Data-PCS at 2390-2400 MHz is complimentary to the existing and increasing use of 2402-2417 MHz for wireless LANs and is itself essential fallow, permitting rapid and inexpensive deployment of this new technology. The benefits of Data-PCS--providing moderately priced, high speed, highly reliable access to information that forms the core of the NII--are plain and substantial: initiation of this service will promote growth in the information, communications and equipment manufacturing sectors of the American economy.

There remains for consideration only the question of the effect of Data-PCS upon the amateur incumbent uses of 2390-2400 MHz. In addressing this issue, the

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<sup>11/</sup> See, e.g., Comments of Apple Computer; Comments of Compaq Computer; cf. Comments of IBM; Comments of AT&T.

<sup>12/</sup> Apple Computer Comments at 9.



Commission must keep clearly in mind the limited protection that the Reconciliation Act accords to incumbent amateur uses. That statute does not, by any means, mandate that the Commission provide absolute or near absolute protection to incumbent and future amateur uses of spectrum being reallocated by the Federal Government. On the contrary, the language of the Reconciliation Act and its legislative history makes plain that the Commission is to take "in consideration" the "concerns" of amateur users in deciding whether its proposed allocations will cause "excessive disruption" to "existing" uses. See, P.L. 103-66, § 113; Conf. Rep. 103-213 at 475 (1993).

The American Radio Relay League is sharply critical of the NTIA for its asserted failure to fully investigate the extent of amateur use of the spectrum at 2390-2400 MHz; but it has itself provided virtually no information about the nature of that existing use.<sup>13/</sup> Other commenters representing amateur radio interests acknowledge that the existing use is highly specialized, localized and very limited and admit that their use can coexist with other uses of the spectrum.<sup>14/</sup> In these circumstances, whether the Commission allocates 2390-2400 exclusively to Data-PCS, as Compaq would prefer, or grandfathers incumbent amateur users and otherwise reserves 2390-2400 MHz exclusively for Data-PCS, it is plain that the Data-PCS proposal fully satisfies the dictates of the Reconciliation Act.

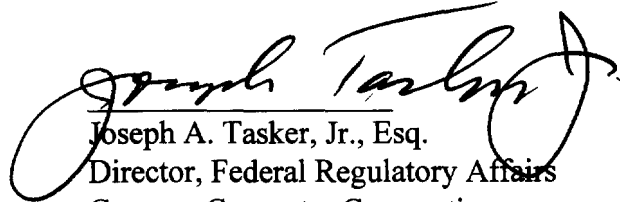
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<sup>13/</sup> See, e.g., Comments of American Radio Relay League at 9.

<sup>14/</sup> Comments of Amateur Television Network at 5 (block 4 and 5); see, also Comments of Apple Computer at 4-5.

Because the proposal to allocate 2390-2400 MHz for Data-PCS insures that the spectrum released by the Federal Government is put to its best and most valued use and that the greatest benefit to the public is attained and because the proposal complies with the requirements of the Reconciliation Act, it should be adopted.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Joseph A. Tasker, Jr.", is written over the printed name and title.

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